

REMARKS

In the Office Action claims 4, 5, 7, 8 and 10 are rejected as being anticipated by U.S. Patent 4,852,527 Beardmore et al. Claims 6 and 9 are rejected as being unpatentable over Beardmore '527 in view of legal precedent. Reconsideration is requested.

Claim 4 calls for a "trapping lobe projecting a low height from the base circle of the cam configured to provide an associated intake valve with only a small lift during a portion of an exhaust event in an engine cycle". Furthermore, Claim 4 calls for "the dwell portion... projecting slightly beyond the base circle a minimum height to maintain the associated intake valve nearly closed during the dwell portion prior to the end of the exhaust cycle". Accordingly, the trapping lobe provides an associated valve with a small lift and the dwell portion positions the associated valve in a nearly closed position between the small lift, provided by the trapping lobe, and the maximum lift provided by the main lobe.

It is clear that Beardmore fails to teach or suggest the cam profile of claim 4. Instead, Beardmore uses a unique cam profile having a preopening bluff ramp 36, a constant cam velocity opening ramp 38 and a conventional valve lift curve 39. (see column 3, lines 62-65) The "preopening bluff 36 is dimensioned to quickly compress the valve train to a level of force immediately below that required to open the valve, after which the slow opening ramp 38 initiates valve opening." (see column 4, lines 11-15) Thus, the bluff ramp 36 of Beardmore does not actually open the valve but only compresses the valve train. This does not teach or suggest a trapping lobe for providing an associated valve with a small lift during a portion of an exhaust event as claim 4 requires. In addition, the constant cam velocity opening ramp 38 of Beardmore initiates valve opening. This does not teach or suggest a dwell portion providing a minimum valve height to maintain the associated valve nearly closed as claim 4 requires. Accordingly, Beardmore fails to teach or suggest using a trapping lobe or a dwell portion as claim 4 requires.